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Tue-Af-Po2.17-06 [30]: Industrial production of superconducting magnets for the FAIR SIS100 accelerator

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For the FAIR project's SIS100 Synchrotron a series of 110 fast ramped dipoles is currently built and in addition a total of 83 superconducting quadrupole doublet modules (QDM) are needed for this accelerator.
An intense measurement program of the first of series (FoS) dipole revealed excellent behavior with respect to, e.g., quench performance and AC losses. With an optimized fabrication technique, the geometrical accuracy was improved to provide a highly homogeneous field and the series production started in 2016.
This document reports about the series manufacturing process of the 110 dipoles. NOELL describes the crucial steps of the series manufacturing and assembly processes. In addition a brief outlook on the integration of the SIS100 QDMs is given.

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